

9 ~~that combines the series of laser pulses from the two or more lasers, each for generating~~
10 ~~laser pulses to provide the series of laser pulses and sufficient to generate ablation when~~
11 the laser source is in an ablation mode.

1 2. (Previously Presented) The medical laser delivery apparatus as claimed in claim 1
2 wherein the series of laser pulses are focussed to the target tissue through an articulated
3 arm feature.

1 3. (Previously Presented) The medical laser delivery apparatus as claimed in claim 2
2 wherein the articulated arm feature comprises one or more refocussing optics for
3 refocussing the laser pulses as they travel through the articulated arm feature.

1 4. (Previously Presented) The medical laser delivery apparatus as claimed in claim 3
2 wherein the laser delivery system further comprises a scanning handpiece at an end of the
3 articulated arm feature for guiding the series of one or more non-ablative laser pulses to
4 the area of tissue being treated.

1 6. (Original) The medical laser delivery apparatus as claimed in claim 1 further comprising
2 a graphical user interface through which a user selects the coagulation depth and/or
3 fluence.

1 7. (Original) The medical laser delivery apparatus as claimed in claim 6 wherein the laser
2 source also has an ablation mode wherein it generates laser pulses of a strength and
3 duration to ablate tissue at the area of tissue being treated to an ablation depth and the
4 user selects the ablation depth through the graphical user interface.

1 8. (Previously Presented) The medical laser delivery apparatus as claimed in claim 1
2 wherein the apparatus is configured to generate laser pulses with short penetration depths.

1 9. (Previously Presented) The medical laser delivery apparatus as claimed in claim 8
2 wherein the two or more lasers are erbium lasers.

1 10. (Previously Presented) The medical laser delivery apparatus as claimed in claim 9
2 wherein the erbium lasers are Er:YAG lasers.

1 11. (Currently Amended) A medical laser comprising:

- 2 a. a laser source having two or more pulsed lasers for generating pulses of laser
3 light, wherein ~~the~~ a series of the pulses of laser light are combined from the laser
4 source in an alternating fashion for generating a single laser output having a
5 predetermined absorption, wherein the predetermined absorption forms a
6 predetermined coagulation depth; and
7 b. a laser control system coupled to the laser source for controlling the laser source
8 to deliver the laser output to a target area.

1 *El. cont.* 12. (Original) The medical laser as claimed in claim 11 further comprising a graphical user
2 interface through which a user selects a depth of the coagulation region formed by the
3 coagulative laser pulses.

1 13. (Original) The medical laser as claimed in claim 12 further comprising a laser delivery
2 system coupled to the laser source for delivering the laser beam from the laser source to
3 an area of tissue to be treated.

1 14. (Original) The medical laser as claimed in claim 13 wherein the laser delivery system
2 comprises an articulated arm and one or more refocussing optics for refocussing the laser
3 beam as it travels through the arm.

1 Claims 15-16 (Canceled).

1 17. (Currently Amended) A medical laser delivery apparatus for treating an area of tissue
2 comprising:

- 3 a. a laser source having a first laser and a second laser each of which generate laser
4 pulses having a wavelength, the laser source being configured to ~~alternate between~~
5 combine laser pulses of the first laser and the second laser to form a single laser
6 output by a combining apparatus for ~~generating~~ delivering a series of laser pulses

each having a strength and a duration to ablate or coagulate the area of tissue being treated;

- b. a laser delivery system coupled to the laser source for delivering the laser pulses from the laser source to the area of tissue being treated; and
- c. a control system coupled to the laser source for controlling generation of the laser pulses from the laser source, wherein the laser source operates in both an ablation mode and a coagulation mode such that when in the ablation mode, the strength and duration of the laser pulses are sufficient to ablate tissue at the area of tissue being treated to a controllable ablation depth and when in the coagulation mode, the strength and duration of the laser pulses are sufficient to generate a coagulation region having a controllable coagulation depth within the tissue remaining at the area of tissue being treated without ablating any tissue.

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1 18. (Original) The medical laser delivery apparatus as claimed in claim 17 further comprising
2 a graphical user interface through which a user selects the controllable ablation depth and
3 the controllable coagulation depth.

1 19. (Original) The medical laser delivery apparatus as claimed in claim 18 wherein the laser
2 delivery system comprises an articulated arm and one or more refocussing optics for
3 refocussing the laser beam as its travels through the articulated arm.

1 20. (Original) The medical laser delivery apparatus as claimed in claim 19 wherein the laser
2 delivery system further comprises a scanning handpiece at an end of the arm for
3 providing the laser pulses to the area of tissue being treated.

1 21. (Original) The medical laser delivery apparatus as claimed in claim 20 wherein the
2 refocussing optics are simple convex lenses.

1 22. (Original) The medical laser delivery apparatus as claimed in claim 21 wherein the laser
2 source includes a laser having a short penetration depth.

1 23. (Previously Presented) The medical laser delivery apparatus as claimed in claim 22,
2 wherein the first and second lasers are erbium lasers.

- 1 24. (Previously Presented) The medical laser delivery apparatus as claimed in claim 23
2 wherein the erbium lasers are Er:YAG lasers.

1 Claims 25-40 (Canceled)

- 1 41. (Currently Amended) A dual mode medical laser system, for sequentially ablating and
2 coagulating a region of target tissue with ablation laser pulses followed by coagulation
3 laser pulses, the dual mode medical laser system comprising:
4 a. a laser source comprising a first laser and a second laser for generating a first set
5 of laser pulses and a second set of laser pulses;
6 b. means to ~~alternate between~~ combine pulses of the first set of laser pulses and the
7 second set of laser pulses to provide a single laser output, the single laser output
8 being capable of coagulating tissue with the system in a coagulation mode and
9 ablating tissue with the system in an ablating mode; and
10 c. means to direct the single laser output to the region of the target tissue.

- 1 42. (Original) The dual mode medical laser system of claims 41 wherein the first laser and
2 the second laser are Er:YAG lasers.

- 1 43. (Currently Amended) The dual mode medical laser system of claim 41 wherein the means
2 to ~~alternate between~~ combine pulses of the first set of laser pulses and the second set of
3 laser pulses ~~the first laser beam and the second laser beam~~ is a galvanometer.

- 1 44. (Original) The dual mode medical laser system of claim 41 further comprising a user
2 interface, wherein a user selects an ablation depth and a coagulation depth and wherein a
3 series of the ablation laser pluses with a fluence corresponding to the selected ablation
4 depth are generated followed by a series of the coagulation laser pulses with a fluence
5 corresponding to the selected coagulation depth.

- 1 45. (Original) The dual mode medical laser system of claim 44 wherein the user interface
2 comprises a mode selector for selecting between manual mode and scan mode, wherein
3 the user further selects a scan size and a laser pulse pattern with the scan mode selected.

- 1 46. (Original) The dual mode medical laser system of claim 45 wherein the user interface is a
2 graphical user interface for displaying the selected laser pulse pattern.
- 1 47. (Original) The dual mode medical laser system of claim 41 wherein the ablation laser
2 pulses have a duration of approximately 500 microseconds and a fluence of
3 approximately 2 Joules/cm².
- 1 *El* 48. (currently amended) The dual mode medical laser system of claim 41 wherein when the
cont system is in the coagulation mode, the coagulation laser pulses of the first set of laser
2 pulses and the second set of laser pulses each have a duration of approximately 150
3 microseconds and a combined fluence of approximately 200 millijoules/cm².
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- 1 49. (Original) The dual mode medical laser system of claim 41 wherein the means to direct
2 the single laser output to the region of the target tissue comprises an articulated arm
3 feature with a plurality of refocussing lenses for guiding and focussing the single laser
4 output through the articulated arm feature.
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